

Paul H Naylor, PhD

Assistant Professor Internal Medicine/Gastroenterology
Wayne State University School of Medicine
Harper University Hospital
601 Hudson
3990 John R, Detroit, MI 48201
Cell Phone: 631-463-6102
Office Phone: 313-7458716
E-Mail: phnaylor@gmail.com

EDUCATION:

1973-1977 PhD in Biochemistry/Immunology University of Texas Medical Branch Galveston Texas
1970-1972 MA in Chemistry, The Johns Hopkins University, Baltimore MD
1966-1970 BS in Chemistry, Washington College, Chestertown, MD

PROFESSIONAL EXPERIENCE

POSTGRADUATE TRAINING

1980-1982 Post Doctoral and Lecturer **Harvard University School of Medicine**, Boston, MA
1978-1980 Research Affiliate IV, Department of Experimental Therapeutics, **Roswell Park Memorial Institute**, Buffalo, New York (Individual National Research Service Award)

BIOTECH EXPERIENCE

2012- present President and Director of Translational Research
PHN Biologicals Consulting, Hazel Park, MI
2002-2012 Director of Preclinical Research and Cytokine Biology
IRX Therapeutics Inc, Farmingdale, NY (retired after leaving)

FACULTY APPOINTMENTS

2013-present Assistant Professor, Department of Medicine/Division of Gastroenterology **Wayne State University School of Medicine**, Detroit, MI
1992 –2002 Associate Professor, Department of Medicine/Division of Gastroenterology,
Wayne State School of Medicine, Detroit, MI
2000-2002 Adjunct Professor **William Tyndale College**, Farmington Hills, MI
1983 – 1992 Associate/Assistant Professor, Department of Biochemistry,
George Washington University Medical Center, Washington, D.C.

MEMBERSHIPS IN PROFESSIONAL ORGANIZATIONS

American Association for the Study of Liver Disease

REPRESENTATIVE PUBLICATIONS

Hepatitis Research

1. Naylor P.H., Reddy N., Gulati D., Hakim Z., Asbahi R., Ravindran K., Patel S., Tama M., Ehrinpreis MN, Mutchnick MG. **Liver Disease Progression and Hepatocellular Carcinoma Development in African Americans with Chronic Hepatitis C.** Journal of Clinical and Translational Hepatology (accepted)
2. Alebouyeh N, Mutchnick S, Bastien M, Ehrinpreis MN, May E, Mutchnick MG. **Interferon (IFN) Based Treatment of African Americans with Chronic Hepatitis C (CHC) in an Urban Clinic: Improving Response with Advances in Therapy** Paul Naylor, Journal of Gastroenterology and Hepatology Research 2015 February 21 4(2): 1465-1469
3. Siddiqui F, Mutchnick, M., Kinzie, J., Peleman, R., Naylor, P., Ehrinpreis, M.: **Prevalence of hepatitis A virus and hepatitis B virus immunity in patients with PCR-confirmed hepatitis C: Implications for vaccination strategy.** Amer. J. Gastro 96: 858-863, 2001.
4. Upfal M.J., Naylor P, Mutchnick M.M. **Hepatitis C screening and prevalence among urban public safety workers.** J Occup Environ Med. Apr;43(4):402-11, 2001
5. Kinzie J.L., Naylor P.H., Nathani M.G., Peleman R.R., Ehrinpreis M.N., Lybik M., Turner J.R., Janisse J.J., Massanari M., Mutchnick M.G. **African Americans with genotype 1 treated with interferon for chronic hepatitis C have a lower end of treatment response than Caucasians.** J Viral Hepat. Jul;8(4):264-9,2001.
6. Yared, G., Hussain, K.B., Nathani, M.G., Moshier, J.A., Dosescu, J., Mutchnick, M.G., Naylor, P.H.: **Cytokine mediated inhibition of apoptosis, virus production and anchorage independent growth of viral transfected hepatoblastoma cells.** Cytokine 10: 586-595, 1998.
7. Moshier, J.A., Mutchnick, M.G., Dosescu, J., Holtz, T.K., Akkary, S., Mahakala, K., Merline, J.R., Naylor, P.H.: **Thymosin α 1, but not interferon α , specifically inhibits anchorage-independent growth of hepatitis B viral transfected HEPG2 cells.** J. Hepatol. 25: 814-820, 1996.
8. Naylor, P.H. **Zadaxin (thymosin alpha1) for the treatment of viral hepatitis** Expert Opinion on Investigational Drugs 8: 281-287, 1999

Cytokine Biologics

9. Naylor P.H., Naylor C.W. Hernandez K, Dixon A., Brandwein H., Wang CY, Haas, G.P. and J.W: **Preclinical Studies with IRX-2 Enhanced Prostate Vaccine, Vaccine 28, 7054-7062, 2010.**
10. Berinstein N., Egan JE., Naylor PH. **Peptide based vaccine approaches for cancer- a novel approach using a WT1 synthetic long peptide and the IRX2 immunomodulatory regimen.** Cancers, 3, 3991-4009, 2011
11. Berinstein NL; Wolf G.T; Naylor PH, Baltzer L ;Egan J.E., Brandwein, Whiteside TL, Goldstein L., El-Naggar A, Badoualn C, *et al*. **Increased lymphocyte infiltration in patients with head and neck cancer treated with the IRX-2 immunotherapy regimen.**, Immunol Immunother. 2011 Nov 6. [Epub ahead of print]
12. Naylor, P.H. and Hadden JW.H: **Preclinical studies with IRX-2 and thymosin alpha 1 in combination therapy** Ann NY Acad Sci 1194. 162-8, 2010.
13. Naylor, P.H. Quadrini K, Garaci E., Rasi G., and Hadden JW. **Immunopharmacology of Thymosin α 1 and Cytokine Synergy.** Ann NY Acad Sci 1112: 235-244, 2007.
14. Naylor, P.H., and Hadden, J.H. **T cell Targeted Immune Enhancement Yields Effective T cell Adjuvants.** Int. J of Immunopharmacology 3: 1205-1215, 2003.

Vaccine Adjuvant Developmenty

15. Kirkley, J. E., Goldstein, A. L., and Naylor, P. H.: **Effect of peptide-carrier coupling on peptide-specific immune responses.** Immunobiology 203, 601-615, 2001.
16. Kirkley, J.E., Goldstein, A.L., and Naylor, P.H.: Adjuvant properties of Montanide CSA720 with recombinant protein and synthetic peptide antigens. Scand. J. Immunology 43:431-438,

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1996.

17. Kirkley, J.E., Naylor, P.H., Marciani, D.J., Kensil, C.R., Newman, M. and Goldstein, A.L.: **QS21 augments the antibody response to a synthetic peptide vaccine compared to alum.** Combination Therapies (A.L. Godstein and E. Garaci, eds, Plenum Press, N.Y.) pp231-236, 1992.

HIV Vaccine Development

18. Naylor, P.H., Sztein, M., Wada, S., Maurer, S., Holterman, D., Kirkley, J., Naylor, C., Zook, B., Hitzelberg, R., Gibbs, C., Zagury, D., Achour, A., O'Toole, C., Gazzard, B., Youle, M., Rios, A., Sarin, S., Goldstein, A.L.: **Preclinical and clinical studies on immunogenicity and safety of the HIV-1 p17-based synthetic peptide AIDS vaccine - HGP-30 - KLH.** Int. J. Immunopharmac. 13:117-127, 1991.
19. Sarin, P.S., Sun, D.K., Thorton, A.H., Naylor, P.H. and Goldstein, A.L.: **Neutralization of HTLV-III/LAV replication by antiserum to thymosin α_1 .** Science 232, 11-14, 1986.

Immunoassays and Mechanism of action

20. Weller, F.E., Mutchnick, M.G., Goldstein, A.L., Naylor, P.H. **Enzyme immunoassay measurement of thymosin beta 4 in human serum.** J. Biol. Res. Mod., 7:91-96, 1988.
21. Naylor, P.H., Naylor, C.W., Sasaki, D., Mutchnick, M.G.: **Utilization of HPLC-ELISA to assess serum levels of thymosin α_1 following subcutaneous administration to human subjects.** J. Liquid Chromatog. 17: 3541-3551, 1994.
22. Naylor, P.H. Quadrini K, Garaci E., Rasi G., and Hadden JW. **Immunopharmacology of Thymosin α_1 and Cytokine Synergy.** Ann NY Acad Sci 1112: 235-244, 2007.
23. Naylor PH, Oates KK, Coss MC, Erdos MR, Naylor CW, Goldstein AL. [Identification of immunoreactive forms of thymosin alpha 1 in serum and supernatants by combining HPLC and RIA.](#) Int J Immunopharmacol. 1992 14:1267-78.
24. Naylor PH, Bhakoo HS, Paolini NS, Goldstein AL, Rosen F. **Immunomodulation of murine β 16 melanoma metastasis: Thymosin, thymectomy and irradiation.** Thymus 5:355, 1983.
25. Naylor PH, Goldstein AL. **Thymosin: Cyclic nucleotides and T-cell differentiation.** Life Sciences 25:301, 1979.

Recent Abstracts

Using FIBROSpect II to Define Treatment Decisions in African Americans with Chronic Hepatitis C Johnny Altawil, MD; Suhag Patel, MD; Maher Tama, MD; Paul Naylor, PHD; Murray Ehrinpreis, MD (AASLD Boston November 2014) Hepatology volume 60, Number 1(suppl) October 2014 P1467 p903A

Long Term Mortality and Morbidity in African Americans with Hepatitis C

Aaron Stubbs, Karthik Ravindran, Sindhuri Benjaram, Naveen Reddy, Paul Naylor, Elizabeth May, Murray Ehrinpreis, and Milton Mutchnick Wayne State University School of Medicine, Detroit, MI DDW May 2015 poster Tu1062

Setting and Documentation of Hepatitis C Virus Antibody Testing in a Veteran Population: Does It Impact RNA confirmation Testing. Stephanie Judd, Alyssa Liubakka, Suhag Patel, Alexis Pavie, Paul Naylor, Fadi Antaki Wayne State University School of Medicine and the J Dingell VA, Detroit, MI DDW May 2015 poster Su1404

Submitted

Stable Chronic Hepatitis C in African American patient profiles over 10 years in an Urban GI clinic Vipul Mahajan, Paul Naylor, Sindhuri Benjaram, Murray Ehrinpreis and Milton Mutchnick Submitted ACG 6-6-15
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Racial Disparity in Hepatocellular Carcinoma Patients Diagnosed in an Urban Medical Center

Kirthi Lilley, Paul Naylor, Omar Sadiq, Sarah Stern, Karan Mathur, Anupama Devara, Karthik Ravindran, Ravi Anand, Samran Haider, Ryan Morton, Sindhuri Benjaram, Philip Philip, Murray Ehrinpreis and Milton Mutchnick

Submitted to AASLD 6-3-15